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CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (currently amended). A transmitting and receiving unit, comprising:

first and second frequency generators each having a separate phase-locked loop with a local oscillator frequency set independently by a divider ratio, said phase-locked loop of said first frequency generator outputting a first local oscillator frequency and said phase-locked loop of said second frequency generator outputting a second local oscillator frequency;

a switch having switch positions including a first switch position and a second switch position;

a receiving branch with an in-phase component and a quadrature component, said receiving branch having a first frequency converter coupled to said first frequency generator;

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a transmitting branch with an in-phase component and a quadrature component, said transmitting branch having a second frequency converter switchably coupled to one of said first and second frequency generators through said switch;

a control device coupled to said switch for selecting a transmitting mode of operation and a receiving mode of operation; and

a reference frequency source commonly connected to said first and second frequency generators;

in the first switch position, said first frequency converter receiving the first local oscillator frequency and said second frequency converter receiving the second local oscillator frequency;

in the second switch position, said first and second frequency converters receiving the first local oscillator frequency from said first frequency generator.

2 (currently amended). The transmitting and receiving unit according to claim 1, wherein:

~~said switch has switch positions;~~

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said receiving branch has a radio frequency input;

said transmitting branch provides a radio frequency signal;

a second switch couples said transmitting branch and said receiving branch and switches said RF signal through to said RF input of said receiving branch dependent upon at least one of said switch positions; and

a control device is coupled to said second switch and drives said second switch.

3 (original). The transmitting and receiving unit according to claim 2, wherein:

said transmitting branch has a radio frequency end;

said receiving branch has a radio frequency end; and

band-pass filters are respectively coupled to each of said radio frequency ends of said transmitting and receiving branches.

4 (original). The transmitting and receiving unit according to claim 3, wherein said band-pass filters are surface acoustic wave filters.

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5 (original). The transmitting and receiving unit according to claim 1, wherein:

each of said transmitting and receiving branches have at least one low-pass filter with a switchable cut-off frequency; and

a control device is coupled to said at least one low-pass filter for driving said at least one low-pass filter.

6 (original). The transmitting and receiving unit according to claim 1, further comprising:

a first digital signal processing device being connected downstream to said receiving branch with respect to a signal flow direction and having a low-pass filter with switchable filter coefficients at a receiving end; and

a second digital signal processing device being connected upstream to said transmitting branch with respect to a signal flow direction and having a low-pass filter with switchable filter coefficients at a transmitting end.

7 (original). The transmitting and receiving unit according to claim 6, wherein each of said digital signal processing devices has a phase error compensation network.

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8 (original). The transmitting and receiving unit according to claim 7, further comprising a control device being connected to said phase error compensation networks and to said low-pass filters for driving said low-pass filters and said phase error compensation networks.

9 (canceled).

10 (canceled).

11 (original). The transmitting and receiving unit according to claim 4, wherein:

each of said transmitting and receiving branches have at least one low-pass filter with a switchable cut-off frequency; and

a control device is coupled to said at least one low-pass filter for driving said at least one low-pass filter.

12 (original). The transmitting and receiving unit according to claim 11, further comprising:

a first digital signal processing device being connected downstream to said receiving branch with respect to a signal

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flow direction and having a low-pass filter with switchable filter coefficients at a receiving end; and

a second digital signal processing device being connected upstream to said transmitting branch with respect to a signal flow direction and having a low-pass filter with switchable filter coefficients at a transmitting end.

13 (original). The transmitting and receiving unit according to claim 12, wherein each of said digital signal processing devices has a phase error compensation network.

14 (original). The transmitting and receiving unit according to claim 13, further comprising a control device being connected to said phase error compensation networks and to said low-pass filters for driving said low-pass filters and said phase error compensation networks.

15 (canceled).

16 (canceled).

17 (currently amended). A transmitting and receiving unit, comprising:

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first and second frequency generators each having a separate phase-locked loop with a local oscillator frequency set independently by a divider ratio, said phase-locked loop of said first frequency generator outputting a first local oscillator frequency and said phase-locked loop of said second frequency generator outputting a second local oscillator frequency;

a switch having a first switch position and a second switch position;

a receiving branch with an in-phase component and a quadrature component, said receiving branch having a first frequency converter coupled to said first frequency generator;

a transmitting branch with an in-phase component and a quadrature component, said transmitting branch having a second frequency converter switchably coupled to one of said first and second frequency generators through said switch;

a control device coupled to said switch and being programmed to select at least one of a transmitting mode of operation and a receiving mode of operation; and

a reference frequency source commonly connected to said first and second frequency generators;

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in the first switch position, said first frequency converter receiving the first local oscillator frequency and said second frequency converter receiving the second local oscillator frequency;

in the second switch position, said first and second frequency converters receiving the first local oscillator frequency from said first frequency generator.

18 (new). A transmitting and receiving unit, comprising:

first and second frequency generators each having a separate phase-locked loop with a local oscillator frequency set independently by a divider ratio;

a first switch;

a receiving branch with an in-phase component and a quadrature component, said receiving branch having a first frequency converter coupled to said first frequency generator, said receiving branch further having a RF input;

a transmitting branch with an in-phase component and a quadrature component, said transmitting branch having a second

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frequency converter switchably coupled to one of said first and second frequency generators through said first switch;

a second switch directly coupling said transmitting branch and said receiving branch and switching an RF signal through to said RF input of said receiving branch for providing an IQ calibration mode for reducing IQ impairments;

a control device coupled to said first switch for selecting a transmitting mode of operation and a receiving mode of operation; and

a reference frequency source commonly connected to said first and second frequency generators.

19 (new). A transmitting and receiving unit, comprising:

first and second frequency generators each having a separate phase-locked loop with a local oscillator frequency set independently by a divider ratio;

a first switch;

a receiving branch with an in-phase component and a quadrature component, said receiving branch having a first frequency

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converter coupled to said first frequency generator, said receiving branch further having a RF input;

a transmitting branch with an in-phase component and a quadrature component, said transmitting branch having a second frequency converter switchably coupled to one of said first and second frequency generators through said first switch;

a second switch directly coupling said transmitting branch and said receiving branch and switching an RF signal through to said RF input of said receiving branch for providing an IQ calibration mode for reducing IQ impairments;

a control device coupled to said first switch and being programmed to select at least one of a transmitting mode of operation and a receiving mode of operation; and

a reference frequency source commonly connected to said first and second frequency generators.

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